

DOCUMENT RESUME

ED 306 480

CG 021 613

AUTHOR Marsh, Herbert W.
TITLE Two-Parent, Step-Parent, and Single-Parent Families:
Changes in Achievement, Attitudes and Behaviors
during the Last Two Years of High School.
PUB DATE 25 Jan 89
NOTE 40p.
PUB TYPE Reports - Research/Technical (143)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; College Bound Students;
Comparative Analysis; *Family Structure; Higher
Education; High Schools; High School Students;
Nuclear Family; One Parent Family; *Parent Child
Relationship; Self Esteem; Stepfamily; *Student
Attitudes; *Student Behavior

ABSTRACT

As part of the High School and Beyond study, a large nationally representative sample of students was asked whether they lived with their mother, a stepmother, their father, or a stepfather in their sophomore year and again in their senior year of high school. Family configurations consisting of two-parent, one-parent, and stepparent families were identified. Comparisons were made among these three family configurations when the configuration was stable during the last 2 years of high school and when the family configuration changed during this period. A total of 22 senior year and postsecondary outcomes (achievement test scores, school grades, course selection, absenteeism, self-esteem, aspirations, getting into trouble, attending college) were found to be related to different family configurations. After controlling for background variables (gender, race, socioeconomic status) and comparable sophomore outcomes, differences in family configurations had remarkably little effect on the senior year and postsecondary outcomes. This lack of effect was reasonably consistent across subgroups based on gender, race, religion, socioeconomic status, and other background variables. The results suggest that for a wide variety of outcome variables, growth and change during the last 2 years of high school are relatively unrelated to different family configurations. (Author)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

Two-parent, Step-parent, and Single-parent Families: Changes in Achievement,
Attitudes and Behaviors During the Last Two Years of High School

Herbert W. Marsh
University of Sydney

25 January, 1989

Running Head: Family Configurations

The data used in this paper were made available by the Inter-university Consortium for Political and Social Research. I would like to thank Raymond Debus and Raymond King for helpful comments on earlier drafts of this manuscript.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- ☒ This document has been reproduced as received from the person or organization originating it.
- ☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Herbert W.
Marsh

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

Two-parent, Step-parent, and Single-parent Families: Changes in Achievement, Attitudes and Behaviors During the Last Two Years of High School

ABSTRACT

As part of the High School and Beyond study, a large nationally representative sample of students was asked whether they lived with their mother, a step-mother, their father, or a step-father in their sophomore year and again in their senior year of high school. Family configurations consisting of two-parent, step-parent and single-parent families were identified. Comparisons were made among these three family configurations when the configuration was stable during the last two years of high school and when the family configuration changed during this period. A total of 22 senior year and post-secondary outcomes (e.g., achievement test scores, school grades, course selection, absenteeism, self-esteem, aspirations, getting into trouble, attending university) were related to different family configurations. After controlling for background variables (e.g., sex, race, SES, etc.) and comparable sophomore outcomes, differences in family configurations had remarkably little effect on the senior year and post-secondary outcomes. This lack of effect was reasonably consistent across subgroups based on sex, race, religion, SES, and other background variables. The results suggest that for a wide variety of outcome variables, growth and change during the last two years of high school are relatively unrelated to different family configurations.

Family Configurations 1

Two-parent, Single-parent, and Step-parent Families: Effects on Achievement, Attitudes and Behaviors During the Last Two Years of High School

Emery, Hetherington and Dilalla (1984) and many others have described the dramatic increase in divorce in the United States. They noted that "there was a time when couples stayed together for the children's sake, but this is not true of today's couples" (Emery, et al., 1984 p. 189; also see Cherlin, 1977). Conventional wisdom suggests that basic changes in family structure such as the dissolution of a two-parent family will have short-term and long-term effects on children. Such effects may include changes in academic achievement, discipline problems, self-concept, and a variety of other attitudinal and behavioral outcomes. It is also likely that extenuating circumstances will influence or mediate such effects. This conventional wisdom is consistent with what has been called the "deficit family model" that hypothesizes "that variations in the nuclear family will produce undesirable deviations in children's personality, social behavior, and school success" (Marotz-Baden, Adams, Bueche, Munro & Munro, 1979, p. 15; also see Ganong & Coleman, 1984). In contrast to this deficit family model, there is a growing recognition that all families have strengths and weakness, and that these may have more to do with outcomes experienced by children in these families than does family configuration.

The present investigation has two major purposes. The first purpose is to provide a broad overview of the methodological issues and empirical findings relevant to the present investigation. Much of this research has been considered previously in comprehensive reviews (e.g., Emery, et al., 1984; Herzog & Sudia, 1973; Ganong & Coleman, 1984; Hetherington, 1979; Hetherington & Camara, 1984; Shinn, 1979) and so I will emphasize these reviews and a few recent studies. The second purpose is to summarize the results of new research using an appropriate methodological paradigm that examines the effect of living in two-parent, single-parent, and step-parent families on changes in children's academic achievement, attitudes and behaviors during the last two years of high school.

Some Initial Methodological Considerations

Notwithstanding the broad acceptance of conventional wisdom as operationalized in the deficit family model, there is a surprisingly weak research base for this position. Researchers often find that children from different family configurations differ on some of a wide variety of academic, attitudinal and behavioral outcomes. The problem is that there is seldom any adequate basis for determining whether these differences are pre-existing

Family Configurations 2

differences or differences caused by family configuration changes. A typical strategy is to try to control for pre-existing differences by adjusting outcome variables for differences in family socioeconomic status (SES) or by comparing groups that have been matched on SES. Once SES is controlled, outcome differences associated with different family configurations are significantly reduced, disappear altogether, or even favor children from single-parent families. This suggests that outcome differences may be pre-existing differences rather than the causal effect of changes in family configuration, but this use of SES is fraught with problems.

It is important to examine more fully the logic underlying the practice of statistically correcting for or matching on SES. When used in this way SES is only a crude predictor used to infer what levels of academic achievement and other outcomes would have been before the onset of changes in the family configuration. What is really needed are adequate measures of these outcomes before such changes occurred. Adjusting for or matching on SES only corrects for an unknown proportion of the variance due to pre-existing differences and the adequacy of this control will vary substantially depending on the outcome measure. Because of the nature of statistical control, correcting for or matching on SES will not account for all the pre-existing differences in any of the outcome measures and probably will not account for very much of the pre-existing differences in some outcomes. In this respect, SES undercorrects -- substantially for some outcomes -- for pre-existing differences. On the other hand, SES is a composite of different components, some of which are probably affected by changes in family structure (e.g., family income). Thus, controlling for or matching on SES may statistically remove legitimate family configuration effects that are moderated through changes in SES. In this respect, SES may overcorrect relations between outcome variables and family configuration. In summary, correction for or matching on SES represent expedient but dubious bases for inferring changes in levels of outcome variables due to changes in the family configurations. On balance, SES-corrected outcome differences probably reflect a better estimate of changes attributable to changes in family configuration than do uncorrected differences, but to assume that this statistical correction compensates for an inherently weak research design is unwarranted. One contribution of the present investigation is to develop and apply one possible model for research in this area that renders as largely irrelevant the difficulties associated with controlling for -- or not controlling for -- SES.

An Overview Of Previous Research

Family Configurations 3

In their 1973 review of children in fatherless families, Herzog and Sudia (1973) examined the effects of father absence on juvenile delinquency, academic achievements, and adjustment. The only methodological prerequisite they required of studies included in their review was that there existed a control or comparison group that was in some way matched for SES and cultural background. Given the stereotyped beliefs of the time, their most important conclusion may have been: "However inconclusive present evidence may be, there is firm basis for rejecting blanket generalizations about the consequences of father's absence. Its behavioral and psychological effects are probably much less uniform and much less uniformly handicapping than is widely assumed" (p. 215). For juvenile delinquency they concluded that existing research did not provide an adequate basis for drawing conclusions, but their impression was that if adequate controls were introduced, there would still be a slightly higher occurrence of delinquency among boys from fatherless families than boys from intact families. For school achievement, there were somewhat more consistent results leading Herzog and Sudia to conclude that "it seems unlikely that father's absence in itself would show significant relationship to poorer school achievement if relevant variables (including type of fatherlessness and SES) were adequately controlled" (p. 157). After a lengthy review of the effects of father absence on the masculine identity of boys, Herzog and Sudia noted important methodological problems but concluded that: "the evidence so far available offers no firm basis for assuming that boys who grow up in fatherless homes are more likely, as men, to suffer from inadequate masculine identity as a result of lacking a resident male model" (p. 1984). In a sophisticated meta-analysis, Stevenson and Black (1988) also found little effect of father absence on sex-typing: for girls there appeared to be no effect whereas for boys there were small effects suggesting that father-present boys were more sex-stereotyped than father-absent boys.

In her review of the effect of father absence on children's cognitive growth, Shinn (1978) established the minimal conditions of methodological adequacy to be "studies of nonclinical populations that included control groups of father present children that made some effort to control for SES by matching subjects, stratifying the sample in analysis, or selecting subjects from homogeneous backgrounds" (p. 296). Despite the minimal nature of these criteria, only 28 of 50 studies met her criteria. Other desirable characteristics cited by Shinn included details about the father absences (reason, duration, child's age at onset), representative samples that

Family Configurations 4

included middle-class children before they reach college, and studies of parent-child interaction in intact and single-parent families. She also noted that: "Longitudinal studies are necessary to determine whether cognitive effects precede or follow father absences" (p. 321). Of the 28 minimally adequate studies in her review, Shinn reported that 16 showed detrimental effects of father absence, 9 found no effect, and 3 found mixed positive and negative effects. Svanum, Bringle, and McLaughlin (1982) noted, however, that even in the 16 studies showing negative effects, the negative effects were frequently small in magnitude and not statistically significant for all subgroups that were considered.

In their extensive review of the literature, Emery et al. (1984; also see Zill, 1983) reported that children in divorced homes compared to children in two-parent families were more than twice as likely to be described by parents as needing psychological help (14% vs. 6%) and having actually seen a psychologist or psychiatrist (13% vs. 5.5%). (They also noted that treatment referrals may be unduely influenced by expectations of divorced parents.) Emery et al. reported that the most common reasons for referral were conduct-related problems and that boys were more likely to be referred for such reasons than girls. They noted, however, that this may represent a tendency for boys to externalize stress in a way that would bring them to the attention of mental health professionals whereas girls may internalize stress. Emery et al. did not find any strong support for the contention that age is an important moderator of the psychological effects of divorce, but did suggested that adolescents may be somewhat better able to cope with divorce than younger children.

Emery, et al. (1984) also reviewed studies of intellectual functioning in relation to divorce. Most studies in their review found children in single-parent families performed more poorly on a variety of indicators. They noted the frequently voiced concern that this difference is confounded by SES but cautioned that the comparison of SES is difficult in one- and two-parent families and that differences frequently persist even after controlling for SES. Emery et al. reported that differences in standardized achievement tended to be much smaller than differences in performance indicators such as teacher ratings, school grades and attendance. Whereas age differences in this pattern of results were not clear, the authors noted several studies suggesting that differences may be more pronounced among late-school-age children. Emery et al. found that boys from divorced families generally showed greater academic deficits than did girls.

Family Configurations 5

Ganong and Coleman (1984) reviewed studies of the effects of remarriage on children. They noted that it is often assumed that parental remarriage has detrimental effects "fueled by portrayals of wicked stepmothers and abusive stepparents in fairy tales" (p. 389) and by "case study research and clinical impressions of stepfamilies who are encountering problems" (p. 389). In contrast they sought to critically examine empirical research and to draw inferences from this research. Noting an array of methodological problems and conflicting evidence, the authors concluded that there was little evidence to suggest that the remarriage of parents was related to problem behaviors, self-attitudes, school grades, academic achievement, personality characteristics, or any of the other variables which they considered. They also noted the need for methodologically more sophisticated studies that echoed Shinn's (1978) suggestions.

Svanum et al. (1982) examined the effects of father absence on cognitive performance for a large representative sample of 6-11 year old children. Father absence was weakly associated (less than 1% of variance explained) with lower cognitive performance. After correcting for SES, however, there were no decrements and in some instances small but statistically significant increments associated with fatherless families. The authors noted that many researchers indicated control of SES to be a necessary condition for adequate research. Svanum et al. argued, however, that control for SES implicitly assumes an underlying causal model. If father absence is more frequent in low-SES families, then it is appropriate to control for SES. If, however, father absence affects SES and this in turn influences cognitive functioning, then it is inappropriate to control for SES. In further analyses, the authors considered the cause, duration, and onset of the father absence. Duration and onset had little systematic effect. Cause had a weak effect on some measures in that children from divorced families performed somewhat better than children from families in which father absences was due to separation or death.

Kinard and Reinherz (1986) found that after controlling for selected background variables, children from recently disrupted single-mother families achieved less in some academic areas than did children from two-parent families and single-mother families that had not been recently disrupted. The authors suggested that "parental separation or divorce may not have long-term effects" (p. 291). The results also suggest that the disruption caused by a change in family configuration may be responsible for lower academic achievement rather than the family configuration.

Family Configurations 6

Kurdek and Sinclair (1988b) compared academic performance and school behavior of eighth grade children from two-parent nuclear families, single-mother families and mother/step-father families. They concluded that family structure was significantly related to academic performance and to school behavior. Children from two-parent nuclear families had better school grades and math achievement scores -- but not verbal achievements -- than children in the other two groups. Children in single-mother families had more absences from school than children in the other two groups. Measures of family conflict and father-involvement in single-mother and mother/step-father families had no significant effect on outcome measures. A weakness of the study was its failure to control for background variables (e.g., SES) except through the selection of a school in which most students were described to be middle-class. In other research (Kurdek & Sinclair, 1988a) that provided stronger controls for background variables, however, these authors found no differences between the family types for a variety of psychological adjustment and school behavior variables.

Using data from a large, nationally representative sample of adolescents, Dornbusch, Carlsmith, Bushwall, Ritter, Leiderman, Hastorf and Gross (1985) examined relations between family configuration, deviant behavior, and family decision making styles. Children from single-mother families had significantly more deviant behavior and more autonomy in making decisions concerning their behavior than did children from two parent families. Controlling family configuration differences in deviant behavior for decision making styles, however, had almost no effect on the size of the relation. Deviant behavior was not significantly related to sex, race, family income or parents education so that controlling family-configuration differences for these variables made little difference. The difference in deviant behavior for children from single-mother and two-parent families was, however, substantially larger for boys than for girls. Whereas the direction of the effects was consistent for a wide variety of analyses, family configuration differences explained only slightly more than 1% of the variance in deviant behavior.

Using responses by adults to large nationally representative surveys, several researchers (Glenn & Kramer, 1985; Kulka & Weingartner, 1979; Nock, 1982) have compared the psychological well-being of adults who experienced divorce as children with those of adults who had not experienced divorce as children. Kulka and Weingartner found largely null relations for different indicators of well-being, but the few statistically significant effects

Family Configurations 7

avored adults who had not experienced divorce as children. Nock, using a wider variety of dependent variables, also found largely null results but the direction of the significant effects tended to favor adults who had experienced divorce as children. These apparently positive effects of experiencing divorce suggested that dealing with early negative experiences may enhance an individual's ability to cope in later life. Glenn and Kramer also reported largely null relations but the statistically significant effects consistently favored adults who had not experienced divorce. Their results also suggested that the negative effects of divorce were larger for females than for males. Whereas these three studies are not consistent in the direction of effects, they were consistent in showing that the size of effects were typically very small.

On the basis of the present review, two conclusions seem warranted. First, there are serious methodological problems in the study of family configuration effects that have not been adequately addressed. Controlling family configuration differences for SES as recommended by most reviewers may be justified, but represents an expedient and inadequate control for pre-existing differences. There has been inadequate attention given to process variables that may mediate the effects of family configuration and how such process variables are affected by changes in family configuration. There have been very few longitudinal studies -- particularly studies that measure large representative samples before and after changes in family configuration. Despite the extended consideration of such methodological issues by many authors, there is not even a well-articulated model paradigm to guide researchers. Second, because of the methodological problems, any generalizations based on empirical research must be offered tentatively -- if at all. Most research was implicitly designed to test, or at least has been interpreted in relation to, the family deficit model. Depending upon the selection of studies, the methodological prerequisites required of studies, and, perhaps, the biases in interpretations of studies, two conflicting generalizations could be supported: (a) empirical research provides reasonably consistent though weak support for the family deficit model in that family configurations that differ from the two-parent nuclear family are sometimes associated with less favorable outcomes and rarely associated with more favorable outcomes or (b) empirical research suggests that family configuration has little systematic effect on a variety of outcome measures. Both generalizations lead to the conclusion that family configuration effects are small and much less pervasive than frequently assumed.

An Overview of The Present Investigation

The purpose of material presented in this section is to summarize one appropriate model for research in this field and how this model was operationalized in the present investigation. The present investigation is based on responses by the sophomore cohort of the High School and Beyond (HSB) study conducted by the National Center for Educational Statistics (NCES, 1986). The data file includes an extensive set of variables collected from a very large, nationally representative sample of students in 1980 when respondents were sophomores, in 1982 when respondents were seniors, and in 1984 two years after the normal time of high school graduation. As part of the study, students were asked whether they lived with their mother, a step-mother, their father, or a step-father in their sophomore year and again in their senior year of high school. Family configurations consisting of two-parent families, single-parent families, and step-parent families (one parent and one step-parent) were identified. These three family configurations and changes in the configuration during the last two years of high school were the basis of subsequent analyses. Subsequent analyses also considered the effects of mother-only, father-only, mother/step-father, and father/step-mother configurations and their differential effects on boys and on girls.

The minimal condition for examining the effects of families configuration on children's growth is a longitudinal study in which comparable outcomes measures are collected on at least two separate occasions. This is not to say that the many other methodological considerations proposed by Ganong and Coleman (1984), by Shinn (1978), and by others are not important. Without such a longitudinal design, however, it is not possible to determine whether empirical relations between family configuration and selected outcome variables represent causal effects. Even with well-designed longitudinal studies, it may not be possible to establish causal linkages, but at least many of the competing explanations can be examined more critically. Two distinct types of longitudinal design are considered in the present investigation.

In the first type of longitudinal design, subjects are selected who experienced the same family configuration during the period considered. In the present investigation, students who reported living in two-parent, single-parent, and step-parent families in both their sophomore and senior years of high school were considered. These are referred to as stable family configurations. To the extent that sophomore outcomes and background variables provide adequate control for differences existing prior to the

Family Configurations 9

sophomore year, then changes in outcomes during the last two years of high school that are associated with different family configurations may reflect the effects of these family configurations. Because students who live in stable two-parent families serve as a control against which to compare students from single-parent and step-parent families, it is unlikely that changes in outcomes are due to developmental changes related to adolescence that are independent of family configuration. This design is conservative in that when appropriately operationalized, the design eliminates from consideration those family configuration effects that had already occurred prior to the sophomore year. Even if family configuration is related to senior and post-secondary outcomes after controlling for background and sophomore outcomes, however, there is always the possibility that pre-existing differences were not adequately controlled.

In the second type of longitudinal design, subjects experiencing stable family configurations are compared to subjects experiencing a change in family configuration. In the present investigation two different sets of comparisons were based on this design. In the divided family comparisons, children who were in two-parent families in both their sophomore and senior years were compared with children who were in two-parent families in their sophomore year and were in either single-parent or step-parent families in their senior year (the latter two groups were also compared to each other). In the reconstructed family comparisons, children who were in single-parent families in both their sophomore and senior years were compared with children who were in single-parent families in their sophomore year and in either two-parent (reconciled) families or step-parent families in their senior year (the latter two groups were also compared to each other). To the extent that background variables and sophomore outcomes provide adequate control for differences existing prior to the sophomore year, then relations between the changes in family configurations and changes in senior and post-secondary outcomes may reflect the effects of these changes in family configuration. It should be noted that this second type of longitudinal design examines the relatively short-term effects of changes in family configuration that may or may not represent long-term effects. Also, even if family configuration changes are associated with systematic differences in senior and post-secondary outcomes after controlling for background variables and sophomore outcomes, there still remains the possibility that pre-existing differences were not adequately controlled.

Each of these comparisons, because of the nature of the HSB data,

provides estimates of family configuration effects across a very broad, heterogeneous sample of subjects. Such estimates, even when they represent legitimate effects, may vary in size or direction for different subgroups within the sample. In the language of analysis of variance, the effects of family configuration may interact with other variables. Whereas it is possible to statistically test for interactions involving likely variables that are available (e.g., sex, SES, race, religion, academic ability) it is always possible that important variables have not been considered. This potential problem is, of course, inherent in all experimental, quasi-experimental, and correlational studies.

Method

Sample

Data for the present investigation are based on the commercially available data file for the second follow-up of the sophomore cohort of the HSB study. A detailed description of this data base is available in the user's manual produced by the National Center for Educational Statistics (NCES, 1986). The data file includes variables collected in 1980 when respondents were sophomores, in 1982 when respondents were seniors, and in 1984 two years after the normal time of high school graduation. The sophomore cohort initially involved a two-stage probability sample of 1,015 high schools and approximately 36 sophomores within each of these schools. The second follow-up consisted of a probability sample of 14,825 of the original sample. Responses in the present analysis were weighted so as to take into account the disproportionate sampling of specified subgroups in the HSB design (NCES, 1986, Table 3.5-1) and still maintain the total sample size at 14,825. Because of the cluster sampling in the HSB study, standard errors based on the assumption of simple random sampling substantially underestimate the sampling variability in summary statistics and distort tests of statistical significance. In order to compensate for this bias, the weight for each respondent was divided by the estimated design effect of 2.40 (NCES, 1986, Table 3.6-5), reducing the nominal sample size from 14,825 to $14,825/2.4=6177$ for purposes of testing statistical significance. It is important to emphasize that the reduction in nominal sample size has no effect at all on cell means and parameter estimates. The design effect is an estimate of the bias in the sample produced by the cluster sampling instead of simple random sampling and only affects the effect size that is needed to achieve statistical significance. In the present application the sample sizes are sufficiently large that even very small effects are statistically

significant and so the use of this design effect is apparently not a critical consideration.

Analyses presented here are limited to responses by the 10,957 students (out of the weighted total of 14,825) who responded to the item "Which of the following people live in the same household with you?" in both their sophomore and senior years of high school. In most cases, the missing values represented one of the 1,076 in the original sample who failed to complete the sophomore (1980) survey or one of the 3,012 who failed to complete the senior (1982) survey. For both surveys, approximately 1/2 of 1% of the students who completed at least part of the survey failed to complete these items.

Selection and Rationale of Variables To Be Considered.

A huge variety of variables are available in the HSB data base and so the selection of variables is important. Variable considered here (see Appendix for a more detailed description) can be classified as: (a) family configuration variables used to define the independent variables; (b) senior (1982) and post-secondary (1984) variables selected as the outcome variables; and (c) sophomore (1980) variables and background/demographic (1980) variables used as control variables.

Family configurations: the independent variables. When asked who they lived with, students were asked to respond positively or negatively to the items: "Father," "Other male guardian (step-father or foster father)," "Mother," "Other female guardian (step-mother or foster mother)" in their sophomore (1980) and senior (1982) years in high school. Other items not considered here were: "I live alone," "Brother(s) and/or sister(s) (including step- or half-)," "Grandparents," "My child or my children," "Other relative(s) (children or adults)," "Non-relative(s) (children or adults)." For purposes of the present investigation, responses to these items were used to classify students into 1 of 4 family configurations in their sophomore and again in their senior year: two-parent (a mother and a father), single-parent (a mother or a father and no step-parent), step-parent (a mother or a father and a step-parent of the opposite sex), and other (neither a mother nor a father). Based on the 4 sophomore and 4 senior year family configurations there are $4 \times 4 = 16$ possible combinations, and the relative frequency of each is presented in Table 1. For some analyses, separate classifications were formed for various combinations of mother and father (e.g., single-mother, single-father). Table 1 also presents the percentage of students in each cell who lived with their mother and father in 1980 and in

1982. Whereas subjects were more likely to live with their mother than their father, there were many cases in which subjects lived with their father and not their mother.

Senior and post-secondary outcomes. A comprehensive set of 22 outcome variables (see Appendix) is used to evaluate family configurations effects. Two major considerations were used in selecting these variables. First, the outcomes were selected so as to parallel approximately those in other HSB studies by the author (Marsh, in press-a; in press-b, 1989a, 1989b) in which different independent variables (e.g., attending single-sex and coeducational schools, other school-type differences, participation in extracurricular activities, part-time employment) were related to student growth and changes during the last two years of high school. Maintaining a common core of outcome variables facilitates interpretations of, and comparisons between, the different studies. Second, and most important, the outcomes were selected to match the range and diversity of outcomes considered in previous research on the effects of family configurations. Consistent with this previous research the outcomes can be broadly classified as academic achievement and other academic behaviors, affective/adjustment outcomes (e.g., esteem, self-concept, locus of control), and other behavioral outcomes such as getting into trouble. Three variables -- parent-child interaction (Parent/Child), family orientation, and parents involvement with the school (Parent/School) were chosen specifically as variables particularly likely to be affected by changes in family configurations.

Whereas a wide variety of outcomes has been considered, it is important to emphasize that separate analyses were conducted on each outcome. That is, the results for any one outcome in no way depend on what other outcomes are or are not included. From this perspective there is no real danger in including too many outcomes whereas potentially important information might be lost if too few outcomes are considered. Whereas it may have been possible to reduce the number of outcome variables through empirical techniques such as factor analysis, there is a growing recognition of the inappropriateness of such purely empirical, a theoretical applications of factor analysis. Two constructs may, for example, be sufficiently correlated to justify their inclusion in a single factor and still be differentially related to changes in family configuration.

Control variables. An important failure of most previous research has been the inappropriate or inadequate control for pre-existing differences between groups that vary in terms of family configuration. Two types of

Family Configurations 13

control variables are considered here (See Appendix I). The first consists of background/demographic variables including those considered in many previous studies (e.g., sex, race, SES, and other family background variables). The second consists of sophomore variables designed to match the set of senior outcomes as closely as possible. The longitudinal paradigm used to assess family configuration effects in the present investigation dictates that any outcome variance that can be explained by these control variables -- or any other sophomore (1980) variables that were not considered -- are interpreted as pre-existing differences. Logically, no matter what control variables are considered, no finite set of control variables will be able to fully control for all pre-existing differences. From this perspective the important danger is the failure to consider an adequate diversity of control variables. So long as the sample size is sufficiently large to avoid capitalizing on chance, there is little danger of considering too many control variables. For these reasons, the number and diversity of control variables considered here is larger than is typical in previous research.

Design and Analysis

The HSB study was designed to assess the impact of a wide variety of independent variables on student growth and changes during the last two years of high school. Consistent with the logic of the HSB design (e.g., Jencks, 1985; Hoffer, Greeley and Coleman, 1985; Marsh, in press-a), relations between family configurations and outcome variables are not interpreted as family configuration effects. The relations of family configuration to senior and post-secondary outcome variables after controlling for background variables and other sophomore variables are, however, interpreted as family configuration effects. In the operationalization of this design multiple regression was used to predict each of the 22 senior and post-secondary outcomes from the combined set of the 13 background variables, the 16 sophomore variables, and the family configuration variables. To the extent that the beta weights relating the family configuration variables to the senior and post-secondary outcome variables were statistically significant, family configuration was interpreted to affect the outcome variable. In the actual analyses, three different sets of multiple regressions were conducted on the basis of different combinations of family configurations.

1) In the comparison of stable family configurations the 6882 (see Table 1) children from stable two-parent families (i.e., two-parent families were indicated in both sophomore and senior years), the 608 children from children from stable step-parent families, and the 1338 children from stable single-

parent families were compared. Comparisons among the three groups were accomplished by constructing two one-degree-of-freedom contrast variables (see Cohen & Cohen, 1983; Pedhazur, 1982; for further discussion of the multiple regression approach to analysis of variance). The first compared children from stable two-parent families with those from the other two family configurations. The second compared children from stable step-parent families with children from stable single-parent families. In the actual analysis, these two family configuration comparisons were used to predict each of the senior and post-secondary outcome variables along with the background variables and sophomore outcomes. In subsequent analyses, the single-parent group was divided into single-mother and single-father subgroups and the step-parent group was divided into mother/step-father and father/step-mother subgroups. Using a similar analytic strategy outcomes for each of these subgroups was compared to those for two-parent families, and these differences were related to the gender of the student.

2) In the divided family comparisons, comparisons were made between the 6882 children from stable two-parent families, the 124 children who lived with two parents in 1980 but only one parent in 1982, and the 384 children who lived with two parents in 1980 but one parent and one step parent in 1982. In the construction of two contrast variables, the stable two-parent families were compared with the other two family configurations, and the two recently divided family configurations were compared with each other.

3) In the reconstructed family comparisons, comparisons were made between the 1338 children from stable single-parent families, the 128 children who lived with a single parent in 1980 but only one parent and one step-parent in 1982, and the 72 children who lived with a single parent in 1980 but both parents in 1982. In the construction of two contrast variables, the stable single-parent families were compared with the other two family configurations, and the two recently reconstructed family configurations were compared with each other.

An important, frequently neglected consideration is the extent to which family configuration effects differ for various subgroups. In the present investigation this possibility was examined through the inclusion of interaction terms in the regression equations used to predict senior and post-secondary outcome measures in addition to the background variables, sophomore outcomes, and family configuration contrast variables. These interactions were represented by the cross-product between each family configuration variable and one of 10 other variables: sex, race (Black), race

Family Configurations 15

(Hispanic), number of siblings, mother working, Catholic religion, public school, urban community, rural community, and total achievement (the mean of standardized scores for math and verbal achievement scores in the sophomore year). Since there were two family configuration variables in each of the analyses, a total of 20 interaction terms were considered in the prediction of each of the 22 senior and post-secondary outcome measures. These interaction terms provide tests of whether the observed effects of family configuration vary significantly depending on the level of the background variable.

Results

Comparisons of Children in Stable Family Configurations

The focus of analyses in this section is on two comparisons: (a) the comparison of children from stable two-parent families with children from stable step-parent and stable single-parent families; and (b) the comparison of children from stable step-parent and stable single-parent families. The set of 22 multiple regressions relating the background variables, the sophomore outcomes, and the two stable family configuration variables to each senior and post-secondary outcome variable is summarized in Table 2. For each regression, the variance uniquely attributable to the 13 background variables, to the 16 sophomore outcome variables, and to the 2 family configuration variables was determined and tested for statistical significance. This was accomplished by determining the total variance explained by the three sets of variables and testing the reduction in variance explained when each of the three sets was removed from the regression equation.

The total variance explained (Total RSQ in Table 2) for the 22 outcomes varied from 8.4% to 74.2%. In all 22 regressions, much of the outcome variance could not be uniquely attributed to any one set of variables (i.e., the sum of unique variance estimates is smaller than the total RSQ estimate). For all 22 outcomes the largest proportion of unique variance was due to the sophomore outcomes. The proportion of total RSQ that was uniquely due to sophomore variables varied from about one-quarter to about three-quarters. The variance uniquely due to background variables was statistically significant for 20 of the 22 regressions, but much smaller than that attributed to sophomore outcomes in all 22 regressions. This variance due to the background variables varied from less than 1% to a maximum of 3.2%. Whereas the background variables were in some cases substantially related to senior and post-secondary outcomes, the unique contribution of the background

Family Configurations 16

variables beyond what could be explained by the set of sophomore outcomes was small. Thus, for example, SES was substantially related to mathematics and verbal achievement in the senior year, but not after controlling for mathematics and verbal achievement in the sophomore year.

The variance uniquely explained by the two family configuration variables was statistically significant for only 4 of the 22 senior and post-secondary outcomes. In a majority of the regressions this variance attributable to family configuration was less than 1/20th of 1% (those rounded to .000 in Table 2). Even in the four statistically significant effects of family configuration, the variance attributable to these variables was no more than 1/2 of 1%.

Effects attributable to comparison 1 (Table 2) are due to the comparison of children from stable two-parent families with children from stable step-parent and stable single-parent families. The *rs* represent the size of this difference before correcting for background and sophomore outcomes, and should not be interpreted as family configuration effects. The *betas* represent the sizes of these differences after correcting for background and sophomore outcomes and are interpreted as family configuration effects in the context of the present investigation. Four of the 22 *betas* representing comparison 1 are statistically significant, and all reflect more positive outcomes in stable two-parent families. The largest two differences are in the amount of parent/child involvement and the amount of the parent's involvement with the school. Significant differences were also found in absenteeism and in the selection of a concentration of science courses.

Effects attributable to comparison 2 (Table 2) reflect the comparison of children from stable step-parent families and stable single-parent families. The *rs* and *betas* have similar interpretations as those representing comparison 1. Three of the 22 *betas* representing comparison 2 are statistically significant. Two of the outcomes (occupational aspirations and attending university) represent more favorable outcomes for single-parent families, and one outcome (absenteeism) represents more favorable outcomes in step-parent families.

In the analyses summarized in Table 2, the effects of a wide variety of background variables were controlled by their inclusion in the regression equation. It is important to reiterate, however, that this does not imply that the observed effects generalize across different levels of these background variables. In the terminology of ANOVA, there are no tests of interactions between background variables and family configurations in Table

2. Although not summarized in Table 2, further analyses were conducted in which interactions between each of the two family configuration comparisons and 10 other variables were considered. This set of 20 interaction effects contributed significantly ($.01 < p < .05$) to only one of the 22 regressions and explained little variance in any of the 22 outcomes. Because 1 of 22 significant differences is about what would be expected on the basis of chance alone, because the size of the contributions due to the interactions was small, and because these interactions were not an important emphasis of the present investigation, these interaction effects were not considered further. These findings imply that the lack of family configuration effects are reasonably consistent across a wide variety of different backgrounds.

The interpretation of the percentages of variance uniquely attributable to the background variables, the sophomore variables, and the family configuration variables should be interpreted in relation to the design of the present investigation. In the language of path analysis, these effects represent the direct effects of each of these sets of variables. To the extent that background variables precede sophomore outcomes in the causal ordering, then the indirect effects of the background variables through the sophomore outcomes may also represent legitimate effects of these variables. The pattern of results in Table 2 suggests that most of the effects of the background variables are indirect, occurring through their effects on sophomore outcomes. Whereas the family configuration variables are correlated with background variables and sophomore outcomes, the design of the present investigation dictates that these relations cannot be interpreted as family configuration effects. Thus, only the direct effects of the family configuration comparisons -- the unique variance components and beta weights in Table 2 -- are interpreted as family configuration effects.

In summary, for these comparisons of stable family configurations, remarkably little variance in a diverse set of senior and post-secondary outcome variables could be interpreted as family configuration effects. Whereas family configuration had significant effects on variables specifically included to be most sensitive to these differences (i.e., parent/child interactions and parents' involvement with the school), even these effects were surprisingly small (no more than 1/2 of 1% of the variance explained). Furthermore, the lack of statistically significant interaction effects suggested that this lack of effect of family configuration was reasonably consistent for a wide variety of subgroups representing sex, race, religion, SES, academic ability, mother working, school type, and community

type. It should be reiterated, however, that these comparisons are conservative with respect to showing family configuration effects. The results imply that changes and growth during the last two years of high school are not related to different stable family configurations. The results, however, say nothing about whether there were or were not family configuration effects that occurred prior to the collection of data in the sophomore year.

Comparisons of Boys and Girls in Stable Two-parent, Single-mother, Single-father, Mother/Step-father, and Father/Step-mother Families

Many researchers, due in part to the relative paucity of mother-absent families, have not considered mother absence. This is unfortunate because: (a) conventional wisdom apparently suggests that children are less disadvantaged by living with their mother than their father, but this belief cannot be tested in studies that consider only father absence and (b) many children do live in mother-absent families (see Table 1). A more detailed consideration of family configurations is also important for considering gender differences. For example, the differential effects of living with a same-sexed parent or an opposite-sexed parent cannot be adequately evaluated unless both father absence and mother absence are considered.

Implicit in the major analyses presented here is the assumption that the effects of single-mother and a single-father families are similar, and that the effects of mother/step-father and father/step-mother families are similar. Empirical tests of this assumption are presented in this section.

The analyses described here are similar to those summarized in the last section (see Table 2) for the stable family configurations. Here, however, comparisons were based on five family configurations instead of just three: single-parent families were divided into single-mother and single-father subgroups, and step-parent families were divided into mother/step-father and father/step-mother subgroups. Using dummy-variable coding (see Pedhazur, 1982), four single-df contrasts were used to represent differences among these five groups. Using two-parent families as the basis of comparison, four dichotomous variables were constructed according to whether or not a child lived in a single-mother, a single-father, a mother/step-father or a father/step-mother family. The critical comparisons are between the RSQ components (Total RSQ and unique RSQs due to background, sophomore, and family configuration variables) derived from the two sets of analyses. If the present analyses, based on five family configurations, were able to explain significantly more variance in the outcome variables than the corresponding

analyses based on just three family configurations, then there would be support for a more detailed breakdown of family configurations. If, on the other hand, analyses based on five family configurations explained no more variance than the corresponding analyses based on just three family configurations, then there would be no support the more detailed family configuration breakdown. [Note: It is impossible for the total RSQ based on analyses for the five groups to be any lower than the total RSQ based on the three groups.] This finding would also support the assumption that the effect of single-mother and single-father families were similar and that the effects of mother/step-father and father/step-mother families were similar.

The results of analyses based on five family configurations are remarkably similar to those based on just three family configurations shown in Table 2. In the two sets of analyses, none of the 22 total RSQs nor any of the corresponding unique variance estimates for the background, sophomore, and family configuration variables differed by more than .001 (i.e., 0.1% of variance explained). Whereas family configuration contrasts were significantly related to 4 of 22 outcomes in Table 2, only 2 of 22 effects were statistically significant when five family configurations were compared. (The two effects that were just barely significant at $p < .05$ for two-df tests of significance in Table 2 just barely missed being significant for the four-df tests used here.) In summary, the results indicate that there are almost no differences in outcomes among the five family configurations and provide no justification for the more detailed family configuration breakdown.

Some researchers suggest that comparisons between family configurations should be conducted separately for boys and for girls. Such analyses test whether differences in family configurations depend on the child's gender. In the terminology of ANOVA, this represents a family configuration by gender interaction. Tests of this interaction are important because they test hypotheses such as the suggestion that it is better for girls to live with their mothers and for boys to live with their fathers. If the family configuration by gender of the child interaction is significant, then it would be useful to consider the results separately for boys and for girls. In order to test this interaction four cross-product variables were formed by multiplying each of the four dummy variables reflecting differences among the five family configurations by the dummy sex variable. A significant configuration by gender interaction implies that these four cross-products are able to contribute significantly to the variable explained beyond what

can be explained by the background variables, the sophomore outcomes and the family configuration variables (Kerlinger, 1982; Cohen & Cohen, 1983). The set of four cross-products, however, contributed significantly ($.01 < p < .05$) to only 1 of the 22 outcomes. Because only 1 of 22 significant effects is about what would be expected on the basis of chance and because the sizes of all the interactions were small there was no need -- in fact no justification -- for performing separate analyses for boys and for girls (i.e., analysis of simple main effects is generally predicated on first finding statistically significant interactions).

Results summarized here indicate that very little variance in the set of 22 outcomes can be attributed to differences in the five family configurations, and that this lack of effect is consistent for boys and for girls. These results may seem surprising to those that believe that children are better off with their mother than their father, or that children are better off with their same-sexed parent. The results are not surprising, however, in relation to those results summarized in Table 2. The two sets of analyses differed only in that the single-parent and step-parent configurations considered earlier were further divided into single-mother, single-father, mother/step-father, and father/step-mother configurations. Given that there were few systematic differences between the three configurations considered originally, substantial differences here would logically imply that children were substantially disadvantaged by at least one of the father-absent or mother-absent configurations and substantially advantaged by at least one of the remaining father-absent or mother-absent configurations. That is, disadvantages due to any one of these groups would have to be offset by advantages associated with one of the other groups in order to be consistent with the overall lack of effects summarized in Table 2. Because it seems implausible that the absence of either parent would systematically advantage children in relation to two-parent families -- except, perhaps, in unusual circumstances -- the results summarized in this section are not surprising.

Comparisons of Children in Recently Divided Families

The focus of analyses in this section is on two comparisons: (a) the comparison of children from stable two-parent families with children from recently divided families; and (b) the comparison of children from recently divided step-parent and single-parent families. The set of 22 multiple regressions relating the background variables, the sophomore outcomes, and the two family configuration comparisons to each of the senior and post-

secondary outcome variable is summarized in Table 3. The general approach used here is similar to that described for comparisons based on the stable family configurations in Table 2, though the specific interpretation of the family configuration comparisons is quite different. The total variance explained (Total RSQ in Table 3) in the 22 regressions, the variance uniquely attributable to background variables, and the variance uniquely attributable to sophomore variables are all very similar to those observed in Table 2. Thus, interpretations offered before will not be repeated, and the focus will be on the interpretation of the family configuration comparisons.

The variance uniquely explained by the two family configuration variables was statistically significant for only 2 of the 22 senior and post-secondary outcomes: child/parent involvement and absenteeism. Inspection of the beta weights indicates that stable two-parent families have more parent/child interaction than recently divided families, whereas the two configurations of recently divided families do not differ from each other. For absenteeism, two-parent families do not differ from recently divided families, but absenteeism is greater in single-parent families than in step-parent families. Again, as in Table 2, the variance attributable to the family configuration comparisons in this analysis was less than 1/20th of 1% for a majority of the family configuration comparisons.

Although not summarized in Table 3, further analyses were conducted in which interactions between each of the two family configuration comparisons and 10 other variables were considered. This set of 20 interaction effects did not contribute significantly ($p < .05$) to any of 22 regressions and contributed no more than 6/10ths of 1% to the variance explained in any of the regressions. Because of the lack of significance and small size of these interaction effects, they were not pursued further.

In summary, for this comparison of family configurations based on recently divided families, remarkably little variance in a diverse set of senior and post-secondary outcome variables could be interpreted as family configuration effects. The lack of statistically significant interaction effects suggested that this lack of effect of family configurations was reasonably consistent for a wide variety of subgroups representing sex, race, religion, SES, academic ability, mother working, school type, and community type. Whereas these interpretations are similar to those offered for results summarized in Table 2, there are important differences in the two sets of analyses. Family configuration effects in Table 2 did not include those effects that occurred prior to the sophomore (1980) year and thus represented

primarily the long-term effects of family configuration differences. In the comparisons considered here, all students were in two-parent families during their sophomore year. Hence, the family configuration effects summarized in Table 3 represent the short-term effects of recent changes in family configurations -- specifically the division of two-parent families. These results imply that there was little short term effect due to these changes in family configuration for the variables considered here.

Comparison of Children in Recently Reconstructed Families

The focus of analyses in this section is on two comparisons: (a) the comparison of children from stable single-parent families with children from recently reconstructed families; and (b) the comparison of children from recently reconstructed step-parent families and recently reconstructed two-parent (i.e., reconciled) families. The set of 22 multiple regressions relating the background variables, the sophomore outcomes, and the two reconstructed family configuration comparisons to each senior and post-secondary outcome variable is summarized in Table 4. Again, the general approach is similar to that described for the stable and recently divided family comparisons, though the specific interpretation of the family configuration comparisons is quite different. The total variance explained (Total RSQ in Table 4) in the 22 regressions, the variance uniquely attributable to background variables, and the variance uniquely attributable to sophomore outcomes are again reasonably similar to those observed in Tables 2 and 3.

The variance uniquely explained by the two family configuration variables was not statistically significant for any of the 22 senior and post-secondary outcomes. Similarly, none of the beta weights representing these comparisons was statistically significant, nor was there a systematic trend favoring stable single-parent families or recently reconstructed families. Although not summarized in Table 4, further analyses were conducted in which interactions between each of the two family configuration comparisons and 10 other variables were considered. This set of 20 interaction effects contributed significantly ($.01 < p < .05$) to only 1 of 22 regressions. Because of this general lack of significance, these interaction effects were not considered further.

In summary, for this comparison of family configurations based on recently reconstructed families, remarkably little variance in a diverse set of senior and post-secondary outcome variables could be interpreted as family configuration effects. The lack of statistically significant interaction

effects suggested that this lack of effect of family configurations was reasonably consistent for a wide variety of subgroups representing sex, race, religion, SES, academic ability, mother working, school type, and community type. This lack of effect attributable to family configuration is similar to results based on stable family configurations (Table 2) and recently divided families (Table 3). In the comparisons considered here, however, all students were in single-parent families during their sophomore year. Hence, the family configuration effects summarized in Table 4 represent the short-term effects of recently reconstructed families. The results summarized in Table 4 imply that there was little short term effect due to this change in family configuration.

Discussion

Students in a very large, nationally representative sample were tested in their sophomore and senior years of high school and again two years after their normal graduation from high school. Based on responses in the sophomore and senior years of high school, a variety of different family configurations of two-parent, step-parent and single-parent families were identified. In different analyses, family configuration effects were estimated in comparisons of stable family configurations, in comparisons of recently divided families, and in comparisons of recently reconstructed families. These effects were tested on a diverse set of 22 outcomes representing academic achievement, attitudes and behaviors. Across all the various comparisons and all the different outcomes, family configuration had remarkably little effect on student growth and changes during the last two years of high school. This lack of effect was reasonably consistent across a variety of subgroupings based on sex, race, religion, SES, school type, community type, and level of academic achievement. The lack of effect of single-parent and step-parent families was also consistent for boys and girls in single-mother, single-father, mother/step-father and father/step-mother families. Taken together results of the various analyses indicate that family configuration has little discernible effect during the last two years of high school.

Arguing for the null hypothesis is typically a tenuous undertaking. Nevertheless, the consistently small effects coupled with the very large sample sizes in the present investigation provide a reasonable basis of support for the claim of null effects for the variables considered here. Furthermore, since the range of outcome variables considered here was so extensive and included most of those typically considered to be important in

earlier research, the findings have broad generality. In summary, the generality of the findings presented here based on student growth and change during the last two years of high schools appears to be very good.

The present investigation is important not only because of the clarity of the empirical results, but also because it is apparently useful in establishing a model paradigm for future research in this field. The minimum condition for testing family configuration effects is the appropriate analysis of results from well-designed longitudinal studies. In general, relations between family configuration differences and outcome variables cannot be interpreted as family configuration effects if: (a) there is only one wave of data, (b) results from one wave of data are not corrected for at least one earlier wave of data, and (c) variables from the earlier wave do not provide a reasonable control for pre-existing differences. These ideals are difficult to operationalize, but the most effective approach is to measure the same set of outcome variables at two points in time with a large representative sample of children. Because previous research is largely inadequate when judged in relation to this model paradigm, the results of the present investigation are important. The inadequacy of most previous research in relation to this critical criterion also casts doubt on generalizations based on reviews and meta-analyses of this research. Meta-analyses may provide possible tests of this contention, but only if this design characteristic is coded as part of the the meta-analysis.

Despite the important strengths of the present investigation, there are also important limitations and weaknesses that may dictate caution in the interpretation of the findings and guide further research.

1. Most importantly, any quasi-experimental study attempting to imply causation on the basis of correlation must be interpreted cautiously.

2. The results of the present investigation are based on a single cohort of students who were of a similar age. Because the results were consistent across many subgroupings, it seems likely that the results accurately reflect family configuration effects in the United States during the 1980s. It is possible -- even likely -- that the conclusions would not be the same in a different society or at a different point in history. A more immediate limitation is the fact that all comparisons were based on changes during the last two years of high school. Whereas this is certainly an important developmental period, it could reasonably be argued that the major influence of the family relative to the peer group is waning by adolescence and that adolescents have reached a sufficient level of independence and self-

regulation to protect themselves from changes in the family configurations. In contrast to this plausible suggestion, the Emery et al. review (1984) found that the effects on at least academic performance indicators may be larger for this age group than for younger children. The results of the present investigation provide no empirical tests of the family configuration effects that occur during childhood or early adolescence.

3. Despite the wide variety of outcome variables considered here, most were based on self-report data. Whereas interpretations of self-report data may require added caution, several considerations may obviate this limitation. First, some of the most important outcomes (e.g., math and verbal achievements, course selection, academic credits) were not based on self-report data and other variables were so closely related to objective behaviors (e.g., university attendance, unemployment) that self-reports were unlikely to be biased. Second, conclusions were based on differences between sophomore and senior responses, so that most self-report biases would probably be cancelled. Third, because of the nature of the HSB study and the extensive range of variables collected, it is unlikely that students would be sensitized by the family configurations variables that were the focus of the present investigation.

4. Due to limitations in the HSB data, the family configuration variables considered here were relatively crude. Whereas students were likely to respond to questions about father and mother in terms of their biological father and mother, the wording of the questions left this distinction somewhat ambiguous. Whereas students indicated which of their parents lived with them, they were not asked to indicate why one or the other parent was not living with them or the duration of the current family configuration. It is also possible that a few children were in the same family configuration in 1980 and 1982 but had actually experienced a short-lasting change in family configuration between the two data collections. The most glaring weakness, perhaps, is the inability to distinguish parent absence due to separation or divorce from absence due to death or other causes such as military service. Several considerations, however, may off-set this weakness. First, it is likely that most parental absence was due to divorce or separation so that effects attributable to other causes will have little effect on the general conclusions. Second, previous research has not identified substantial, systematic differences due to different causes of parent absence, again suggesting that this additional information would have little effect on the present findings. Third, some types of parental absence are somewhat sex-

specific (e.g., military service), but the findings were consistent across mother-absent and father-absent families. Finally, if there were negative effects for parent absence due to separation or divorce even though there were no effects for parent absence overall, then this would logically imply huge advantages attributable to the relatively less frequent parent absence due to other causes. Common sense and previous research renders this logical implication as implausible.

5. Particularly in comparisons involving recently divided and recently reconstructed families, the change in the family configuration was implicitly assumed to take place at a fixed point in time. In fact, such changes are not a single event and typically involve a number of steps that may occur over a considerable period of time. For example, Emery, et al. (1984) argued that most family dissolutions are preceded by a stage that they refer to as the distressed marriage which is characterized by stress, conflict, and uncertainty. Particularly for the recently divided families but also the recently reconstructed families, potential family configuration effects might have occurred prior to the sophomore year. Even if this were the case, however, the results still show that family configuration differences in these comparisons were unrelated to changes during the last two years of high school.

Many researchers urge that more emphasis needs to be placed on family process variables instead of family configuration per se. For example, Emery, et al. (1984) suggest that differences in family configurations may have much less impact on children's adjustment than do process dimensions such child-rearing practices and family conflict. Kurdek and Berg (1987) found that children's beliefs about and understanding of parental divorce are substantially related to levels of anxiety, self-concept, and social support. Recommendations for the study of process variables are not only based on the recognized importance of these family processes, but also on the implicit assumption that outcomes attributable to differences in family configuration may be explained by differences in family processes. In the present investigation, due in large part to the nature of the data, there was a glaring lack of emphasis on family process variables. Some of the outcome variables could have been treated as process variables (e.g., child/parent interactions), but this approach was not pursued and so the present study has little to say about how such family process variables affect children's adjustment. The purpose of the present study, however, was to examine the effects of family configuration and not the influence of family process

variables except as they moderate the family configuration effects. Since there was almost no family configuration effects, however, family process variables would have been unable to explain much variance due to family configuration effects. The results also imply that family process variables that do affect the outcomes considered here are not substantially related to the differences in family configuration. The results of the present investigation do, however, support the contention that undue attention may have been paid to family configuration variables and that other variables are probably more important in explaining children's adjustment.

There is considerable controversy about the necessity of correcting family configuration relation for differences in SES. As noted earlier, controlling for SES may simultaneously provide appropriate corrections for pre-existing differences and inappropriate corrections for legitimate family configuration effects. Given this situation there is apparently no solution to the dilemma. More importantly, if an appropriate longitudinal design is used, then the question becomes largely irrelevant. For the recommended longitudinal design, it is always appropriate to correct time 2 outcomes for time 1 indicators of SES. Furthermore, when the same outcome measures are collected at both time 1 and time 2, the correction for SES is unlikely to make much difference. As demonstrated in the present investigation, most of the effect of SES and other background variables on time 2 outcomes occurs indirectly through time 1 outcome measures. SES, for example, is substantially related to both sophomore and senior academic achievement, but is nearly uncorrelated with senior academic achievement after correcting for sophomore academic achievement. In other words, SES is not substantially correlated with changes in academic achievement during the last two years of high school. In this case, the correction for SES is largely irrelevant.

Based on my reading in this area, it appears that an increasing number of studies are based on large, nationally representative data bases instead of small idiosyncratic samples and clinical case studies collected by the researcher. Because the data bases were not typically designed to study family configurations per se, important details may be unavailable as in the present investigation. Ultimately, the convergence of findings based on these large data bases and smaller studies designed to address specific questions will be required. The use of large, nationally representative samples has obvious advantages despite their potential limitations. It is important to reiterate, however, that if these studies are based on a single wave of data then they do not provide an adequate basis for determining whether relations

between family configurations and outcomes can be interpreted as family configuration effects. As described earlier, a well-designed longitudinal study is apparently the minimal condition for distinguishing between family configuration relations and effects.

There is a growing recognition that the effects of family configurations that differ from the modal two-parent nuclear family need not be negative. As the occurrence, the diversity and, apparently, the acceptance of alternative family configurations increases, the stigmatization associated with this phenomenon appears to be lessening. In their review of divorce research, Emery et al. (1984) also noted that divorced families have available to them a diversity of previous experience and resources for coping with a difficult transition, and that these resources may substantially effect the outcomes associated with this transition. Perhaps more strongly than any previous research, the results of the present investigation suggest that children's growth -- at least during the last two years of high school -- are surprisingly unaffected by different family configurations.

REFERENCES

- Block, J. H., Block, J., & Gjerde, P. F. (1986). The personality of children prior to divorce. Child Development, 57, 827-840.
- Cherlin, A. J. (1977). The effect of children on marital dissolution. Demography, 14, 265-272.
- Cohen, J. & Cohen, P. (1983). Applied multiple regression/correlation analysis for the behavioral sciences (2nd ed.). Hillsdale NJ: Erlbaum.
- Dornbusch, S. M., Carlsmith, J. M., Bushwall, P. L., Ritter, H. L., Liederman, H., Hastorf, A. H., & Gross, R. T. (1985). Single parents, extended households, and the control of adolescents. Child Development, 56, 326-341.
- Emery, R. E., Hetherington, E. M., & Dilalla, L. F. (1984). Divorce, children, and social policy. In H. W. Stevenson & A. E. Siegel (Eds.), Child development research and social policy (Vol. 1, pp. 189-266). Chicago: University of Chicago Press.
- Ganong, L. H., & Coleman, M. (1984). The effects of remarriage on children. Family Relations, 33, 389-406.
- Glenn, N. D., & Kramer, K. B. (1985). The psychological well-being of adult children of divorce. Journal of Marriage and the Family, 47, 905-912.
- Hetherington, E. M. (1979). Divorce: A child's perspective. American Psychologist, 34, 851-858.
- Hetherington, E. M., & Camara, K. A. (1984). Families in transition: The processes of dissolution and reconstruction. In R. D. Parke (Ed.) Review of child development research Vol. 7, (pp. 398-439). Chicago: University of Chicago Press.
- Heyns, B., & Hilton, T. L. (1982). The cognitive tests for High School and Beyond: An assessment. Sociology of Education, 55, 89-102.
- Herzog, E., & Sudia, C. E. (1973). Children in fatherless families. In B. M. Cadwell & N. H. Riccuti (Eds.), Review of child development research (Vol. 3, pp. 141-232). Chicago: University of Chicago Press.
- Hoffer, T., Greeley, A. M., & Coleman, J. S. (1985). Achievement growth in public and Catholic schools. Sociology of Education, 58, 74-97.
- Jencks, C. (1985). How much do high school students learn. Sociology of Education, 58, 128-135.
- Kinard, E. M., & Reinherz, H. (1986). The effects of marital disruption on children's school aptitude and achievement. Journal of Marriage and the Family, 48, 285-294.
- Kulka, R. A., & Weingarten, H. (1979). The long-term effects of parental divorce in childhood on adult adjustment. Journal of Social Issues, 35, 50-

78.

- Kurdek, L. A., & Berg, B. (1987). Children's Beliefs About Parental Divorce Scale: Psychometric characteristics and concurrent validity. Journal of Consulting and Clinical Psychology, 55, 712-718.
- Kurdek, L. A., & Sinclair, R. J. (1988a). Adjustment of young adolescents in two-parent nuclear, step-father, and mother-custody families. Journal of Consulting and Clinical Psychology, 56, 91-96.
- Kurdek, L. A., & Sinclair, R. J. (1988b). Relation of eighth graders' family structure, gender, and family environment with academic performance and school behavior. Journal of Educational Psychology, 80, 90-94.
- Marsh, H. W. (in press-a). The effects of attending single-sex and coeducational high school on achievement, attitudes and behaviors and on sex differences. Journal of Educational Psychology.
- Marsh, H. W. (in press-b). Sex differences in the development of verbal and mathematical constructs: The High School and Beyond Study. American Educational Research Journal.
- Marsh, H. W. (1989a). Employment during high school: Character building or a subversion of academic goals. (In review).
- Marsh, H. W. (1989b). Extracurricular activities: A beneficial extension of the traditional curriculum or a subversion of academic goals. (In review).
- Marotz-Baden, R., Adams, G., Bueche, N., Munro, B., & Munro, G. (1979). Family form or family process? Reconsidering the deficit family model approach. The Family Coordinator, 28, 5-14.
- National Center for Educational Statistics (1986). High School and Beyond, 1980: Sophomore cohort second follow-up (1984). Data file user's manual. Ann Arbor, MI: Inter-university Consortium for Political and Social Research.
- Nock, S. (1982). Enduring effects of marital disruption and subsequent living arrangements. Journal of Family Issues, 3, 25-40.
- Pedhazur, E. J. (1982). Multiple regression in behavioral research (2nd ed.). New York: Holt, Rinehart and Winston.
- Shinn, M. (1978). Father absence and children's cognitive development. Psychological Bulletin, 85, 295-324.
- Stevenson, M. R. & Black, K. N. (1988). Parental absence and sex-role development: A meta-analysis. Child Development, 59, 793-814.
- Svanum, S., Bringle, R. C., & McLaughlin, J. E. (1982). Father absence and cognitive performance in a large sample of six- to eleven-year-old children. Child Development, 53, 136-143.
- Zill, N. (1983). Happy, healthy, and insecure. New York: Doubleday.

Family Configurations 31

Table 1

Family Types During Student's Sophomore (1980) and Senior (1982) Years of High School: Number of Students (%s in parentheses) with 2 Natural Parents, 1 Natural Parent and 1 Step-parent, 1 Natural Parent and No Step Parents, and Other Living arrangements With No Natural Parents

During Sophomore Year (1980)	During Senior Year (1982)				Sophomore (1980) Total
	Two-parent Families	Step-parent Families	Single-parent Families	Other	
Two-parent Families	6882 (62.8%) [100% 100%]	124 (13.7%) [100% 51%]	384 (3.5%) [100% 74%]	283 (2.6%) [100% 0%]	7673 (70%)
Step-parent Families	181 (1.7%) [56% 100%]	608 (5.5%) [80% 80%]	139 (1.3%) [84% 86%]	137 (1.3%) [72% 0%]	1065 (9.7%)
Single-parent Families	72 (0.7%) [72% 100%]	128 (1.2%) [87% 77%]	1338 (12.2%) [90% 90%]	141 (1.3%) [75% 0%]	1678 (15.3%)
Other	165 (2.3%) [0% 100%]	46 (0.4%) [0% 63%]	89 (0.8%) [0% 85%]	241 (2.2%) [0% 0%]	541 (4.9%)
Senior (1982)					
Total	7300 (66.6%)	906 (8.3%)	1949 (17.8%)	802 (7.3%)	10957 (100%)

Note. The values in () are the percentages of the total sample (N=10,957) in each cell. The two values in [] are the percentage of cases within the cell in which there is a natural mother during the sophomore (1980) and senior (1982) years respectively. These values in [] also, by default, indicate the percentage of cases in which there is a natural father as well. The "other" category includes all cases in which students responded to both the sophomore and senior year surveys, but indicated that they were not living with a least one natural parent.

Table 2

Senior Year Outcomes for Students in Stable Family Configurations. Variance Attributed Uniquely to 13 Background Variables, to 16 Sophomore Variables, and to 2 Family Configuration Comparisons: (1) Two-parent vs. Step-parent and Single-parent families; (2) Step-parent vs. Single-parent Families.

Senior Year (1982) and Post-Second- ary (1984) Outcomes	Total RSQ	Unique RSQ due to Back- ground	Unique RSQ due to Sopho- more	Unique RSQ due to Family Config.	Effects Attributable To:			
					Comparison 1		Comparison 2	
					beta	r	beta	r
Academic Achievement and Behaviors								
Math Ach	713**	014**	372**	000	001	105**	-003	061**
Verb Ach	742**	009**	407**	000	-012	091**	002	057**
Grades	585**	011**	392**	000	012	081**	-005	053**
Acad Track	411**	013**	182**	000	006	060**	-008	018
Homework	328**	011**	190**	000	010	-029	-018	007
Absenteeism	189**	006	156**	003**	-038*	-082**	-036*	-069**
Math Conc	449**	018**	205**	000	011	087**	005	051**
Science Conc	394**	012**	183**	001	037*	099**	-009	037*
Acad Credits	404**	025**	158**	000	-012	061**	010	043*
Affective Variables and Behaviors								
Locus Control	293**	006*	189**	000	004	033	018	026
Self-Esteem	193**	005	161**	000	012	008	002	-013
Parent/Child	219**	010**	157**	005**	073**	107**	015	056**
Family Orien	199**	009**	177**	001	021	064**	015	035
Educ Aspir	540**	022**	171**	001	-014	025	-022	-007
Occup Aspir	217**	019**	068**	002*	-020	-014	-041*	-028
Parent/School	090**	029**	035**	002*	045*	065**	002	024
Academic Self	391**	019**	206**	000	006	021	003	009
Trouble	283**	013**	210**	000	000	009	006	016
Sex Stereo	343**	032**	196**	000	-013	-077	-011	-041*
Social Self	318**	010**	261**	000	-014	004	011	016
Postsecondary Outcomes								
Unemployed	084**	013**	022**	000	-003	-055**	-004	-030
University	400**	031**	109**	001	019	085**	-032*	021

Note. A series of multiple regressions were conducted in which the total RSQ was determined when each senior outcome was predicted with three sets of variables: (a) background variables, (b) sophomore variables, and (c) family configuration comparisons. The change in RSQ due to the separate deletion of each of these three sets of variables was determined. Effects attributable to the two family type comparisons are presented after correcting for background and sophomore outcomes (betas) and with no corrections (rs). Positive effects indicate that outcomes variables have higher values in two-parent families (comparison 1) and in step-parent families (comparison 2).

* $p < .05$; ** $p < .01$.

Table 3

Senior Year Outcomes for Students in Recently Divided Families. Variance Attributed Uniquely to Background Variables, to Sophomore Variables, and to Two Family Configuration Comparisons: (1) Two-parent families in both years vs. Two-parent families in 1980 and Step-parent or Single-parent Families in 1982; (2) Two-parent Family in 1980, Step-parent Family in 1982 vs. Two-parent Family in 1980, Single-parent Family in 1982.

Senior Year (1982) and Post-Second- ary (1982) Outcomes	Total RSQ	Unique RSQ due to Back- ground	Unique RSQ due to Sopho- more	Unique RSQ due to Family Config.	Effects Attributable To:			
					Comparison 1		Comparison 2	
					beta	r	beta	r
Academic Achievement and Behaviors								
Math Ach	712**	014**	380**	001	-.003	.058**	.026*	.035
Verb Ach	748**	008**	419**	000	.003	.064**	.020	.036
Grades	600**	011**	406**	000	.008	.066**	.014	.028
Acad Track	425**	013**	185**	000	.011	.045*	.012	.021
Homework	334**	012**	187**	001	.008	.040*	.022	.035
Absenteeism	188**	.005	156**	.004**	-.010	-.053**	-.055**	-.067**
Math Conc	449**	021**	202**	000	.002	.042*	.005	.013
Science Conc	398**	014**	188**	000	-.002	.039	.017	.023
Acad Credits	413**	030**	152**	001	.017	.054**	.012	.026
Affective Variables and Behaviors								
Locus Control	303**	008*	193**	000	.000	.033	.016	.031
Self-Esteem	196**	.004	161**	000	.016	.020	.003	.010
Parent/Child	204**	007*	150**	.008**	.095**	.106**	-.012	.044*
Family Orien	186**	.006	172**	001	.000	.034	.010	.023
Educ Aspir	550**	023**	166**	000	-.016	.010	.009	.003
Occup Aspir	236**	021**	076**	000	.005	.012	-.011	-.010
Parent/School	089**	027**	038**	001	.033	.043*	.005	.024
Academic Self	401**	017**	211**	000	.008	.030	-.001	.009
Trouble	291**	014**	220**	000	.008	.023	.005	.014
Sex Stereo	352**	034**	194**	000	-.023	-.044*	.003	-.024
Social Self	327**	012**	264**	000	.008	-.014	-.012	-.016
Postsecondary Outcomes								
Unemployed	082**	016**	018**	001	-.002	-.036	-.033	-.037
University	407**	034**	106**	000	.022	.052*	-.003	.015

Note. Multiple regressions were conducted in which the total RSQ was determined when each senior outcome was predicted with three sets of variables: (a) 13 background variables, (b) 16 sophomore variables, and (c) 2 family configuration comparisons. The change in RSQ due to the separate deletion of each of these three sets of variables was determined. Effects attributable to the two family configuration comparisons are presented after correcting for background and sophomore outcomes (betas) and with no corrections (rs). Positive effects indicate that outcome variables have higher values in two-parent families (comparison 1) and step-parent families (comparison 2).

* $p < .05$; ** $p < .01$.

Table 4

Senior Year Outcomes for Students in Recently Reconstructed Families. Variance Attributed Uniquely to Background Variables, to Sophomore Variables, and to Two Family Configuration Comparisons: (1) Single-parent families in 1980 and 1982 vs. Single-parent Families in 1980, Two-parent or Step-parent Families in 1982; (2) Single-parent Families in 1980, Two-parent Families in 1982 vs. Single-parent Families in 1980, Step-parent Families in 1982.

Senior Year (1982) and Post-Second- ary (1984) Outcomes	Total RSQ	Unique RSQ due to Back- ground	Unique RSQ due to Sopho- more	Unique RSQ due to Family Type	Effects Attributable To:			
					Comparison 1		Comparison 2	
					beta	r	beta	r
Academic Achievement and Behaviors								
Math Ach	708**	027**	349**	001	012	-016	-034	-037
Verb Ach	739**	018**	369**	000	016	012	-008	-018
Grades	506**	015	038**	001	-027	-034	030	015
Acad Track	371**	027**	018*	005	-014	-002	075	057
Homework	363**	023	219**	000	004	037	010	-001
Absenteeism	225**	020	183**	005	075	017	-017	000
Math Conc	450**	021	235**	000	-008	-017	-015	-021
Science Conc	386**	014	184**	001	018	024	019	010
Acad Credits	409**	037**	209**	003	-039	-053	-029	-043
Affective Variables and Outcomes								
Locus Control	283**	012	176**	000	-011	-004	019	-010
Self-Esteem	217**	018	180**	000	-020	008	016	001
Parent/Child	255**	017	190**	002	-030	007	042	035
Family Drien	260**	033**	209**	005	-049	-027	064	060
Educ Aspir	488**	033**	168**	004	036	031	048	037
Occup Aspir	163**	016	063**	004	064	063	-001	-004
Parent/School	105**	039*	042	001	007	007	028	035
Academic Self	462**	044**	204**	000	-011	-007	003	-011
Trouble	224**	024	163**	003	-058	-024	017	-011
Sex Stereo	301**	037*	185**	000	-019	-002	-009	-026
Social Self	353**	021	274**	003	026	051	044	050
Postsecondary Outcomes								
Unemployed	137**	021	067**	003	-050	-045	0342	025
University	385**	031*	132**	001	018	008	022	009

Note. Multiple regressions were conducted in which the total RSQ was determined when each senior outcome was predicted with three sets of variables: (a) 13 background variables, (b) 16 sophomore variables, and (c) 2 family configuration comparisons. The change in RSQ due to the separate deletion of each of these three sets of variables was determined. Effects attributable to the two family configurations are presented after correcting for background and sophomore variables (betas) and with no corrections (rs). Positive effects indicate that outcome variables have higher values in stable single-parent families (comparison 1) and in families with step-parent families (comparison 2).

* $p < .05$; ** $p < .01$.

Appendix 1

Definition of Variables Considered

Variables	Description
Background Variables	
Sex	[SEX] 1=Male, 2=female.
SES ^a	[BB038, BB041, BB039, BB042, BB101, BB104B-BB104I] 1980 composite socioeconomic status defined as the mean of z-score responses to parental occupation status (the highest of mother's and father's), parental education (the highest of mother's and father's), family income, and material possessions in the home.
Race--Black	[Race2] Ethnicity is Black. (1=yes, 0=no)
Race--Hispanic	[Race2] Ethnicity is Mexican, Cuban, Puerto Rican, or other Hispanic. (1=yes, 0=no)
Catholic	[BB091] Religious background is Catholic. (0=non-Catholic, 1=Catholic)
No. of Sibs	[BB096A-BB096E] Number of Siblings (0=0, 1=1, 2=2, 3=3-4, 4=5-7, 5=8+)
Public School	[SCHSAMP] Attended a public school (1=yes, 0=no)
Repeated Grade	[FY59AA-FY59AH] Number of grades repeated in grades 1-8.
College Expect	[BB072A, BB072B, YB068A, YB068B] Mean of college expectations in 6th, 7th, 8th and 9th grades.
Kindergarten	[YB012] Went to kindergarten. (1=yes, 0=no)
Urban	[HSURBAN] High School in an Urban Setting (0=suburban or rural, 1=Urban)
Rural	[HSURBAN] High School in an rural Setting (0=suburban or urban, 1=rural)
Mother Works	[BB037A, BB037B, BB037C] mean of responses asking if mother worked while respondent was in high school, in elementary school and before respondent was in elementary school. (1=did not work, 2= part time, 3= full time)
Sophomore (1980) Control Variables and/or Senior (1982) Outcome Variables	
Math Ach	[YBMTH1FS, YBMTH1FS; FYMTH1FS, FYMTH1FS] 1980 and 1982 means of z-score formula scores for part 1 and 2 of the math tests.
Verb Ach	[YBREADFS; FYREADFS; YBVOCBFS; FYVOCBFS] 1980 and 1982 means of z-score vocabulary and reading test formula scores.
Grades	[BB007; FY7] 1980 and 1982 self-reported high school grades so far (higher scores reflect higher grades).
Acad Track	[BB002; FY2] In 1980 and 1982 participated in academic track (1=yes, 0=no)
Homework	[BB015; FY15] 1980 and 1982 time per week spent on homework.
Absenteeism	[BB016; FY16] 1980 and 1982 frequency absent from school but not ill.
Math Conc ^b	[MATHPATN] In 1982 the math course-taking pattern

Family Configurations 36

	(4=concentration, 3=college-bound, 2=general studies, 1=limited or non-participant)
Science Conc ^b	[SCIPATN] In 1982 the math course-taking pattern (4=concentration, 3=college-bound, 2=general studies, 1=limited or non-participant)
Acad Credits ^b	[NEWBASE] In 1982 number of credits in six academic areas.
Locus Control	[BBLOCUS, FYLOCUS] 1980 and 1982 composite locus of control (higher values reflect a more internal locus)
Self-Esteem	[BBCONCPT, FYCONCPR] 1980 and 1982 composite variables similar to Rosenberg's (1965) self-esteem scale (higher values reflect more positive scores)
Parent/Child	[BB046A-BB046C, BB047G; FY57A-FY57C, FY60F] Mean of z-score responses asking if mother and father monitor school work, parents know what I'm doing, and spend time talking to my parents (higher scores reflect greater parental involvement).
Family Orien	[BBFAMILY, FYFAMILY] 1980 and 1982 composite Family orientation scale (higher values reflect more positive scores)
Educ Aspir	[BB061G, BB065, BB067; FY76G, FY80, FY82] 1980 and 1982 means of z-score responses asking if disappointed if do not graduate from college, expected level of schooling and lowest level of schooling satisfied with (higher scores reflect higher educational aspirations).
Occup Aspir	[BB062, FY] 1980 and 1982 occupational aspirations at age 30 (scaled the same way as parent's occupational status)
Parent/School	[FY58A-FY57C, FY60E] 1982 mean of z-score responses asking if parents attend PTA meetings, attends parent-teacher conferences, visit classes, and volunteer for school projects (higher scores reflect greater parental involvement).
Academic Self	1980 and 1982 composite variables constructed from responses to one cluster of 8 dichotomous items that refer to attitudes toward English [YB035A-YB035D] and mathematics [YB035E-YB035H] (e.g., I dread English (mathematics) classes; English (mathematics) class does not scare me at all), and 3 items asking if respondent is interested in school [BB059C], is seen by others as a good student [YB053D], and feels he/she has the ability to complete college [BB069]. The standardized mean of the first eight items was averaged with the standardized means to the other three items in 1980. Because the first cluster of 8 items was not included on 1982 survey, only the mean of the standardized responses to the other three items was used (higher scores reflect more positive academic self-concepts).
Trouble	[YB053F, BB059B, BB059D, BB059E, BB061A; FY74F, FY66B, FY66E, FY66F, FY76A] 1980 and 1982 means of z-score responses asking

if others see you as a trouble maker, if had disciplinary problems in school, if suspended from school, if cut classes, and if had serious trouble with the law. (higher values reflect more trouble).

- Sex Stereo [YB063A-YB063C; FY72A-FY72C] 1980 and 1982 means of z-score response to three items reflecting traditional sexual stereotypes (e.g., most women are happiest when making a home and caring for children) (higher scores reflect more stereotyped responses).
- Social Self [BB047A, BB047C, YB053A, YB053C, YB053G, BB061D; FY60A, FY60C, FY74A, FY74C, FY74G, FY76D] 1980 and 1982 means of z-score responses asking the frequency of visiting friends and of going out on dates, whether others see you as popular, socially active, and one of the leading crowd, and whether respondent sees him/herself as popular (higher scores reflect more social self-concepts).

Post-Secondary Outcome Variables (based on 1984 data)

- Unemployed [JOBSOC82, JOBSFE82, JOBSOC83, JOBSFE84] Sum of activity variables indicating student was neither employed (full or part-time) nor a student (full or part-time) at each of four points.
- University [PSESOC82, PSESFE82, PSESOC83, PSESFE84] Sum of activity variables indicating student was not a student (0), was a part-time student (1), or was a full-time student (2) at a post-secondary institution at each of four points in time.

Note. Values in brackets refer to variable names used on the HSB data file.

Those starting with BB or YB come from the 1980 (sophomore survey, and those starting with FY come from the 1982 (senior) survey. Most sophomore control variables are paired with senior outcome variables and, unless otherwise noted, are defined with parallel variables from the two surveys. For all composite variables consisting of the mean of specific indicators, the mean of all non-missing values was computed and a missing value was assigned only if all the variables were missing.

^a For the parallel items asking about mother and father separately, the maximum of the two responses was used. ^b For the senior year only two types of course-taking variables were available from school transcripts for each student that was provided by the school; counts of the number of credits earned in six different academic subject areas (Acad Credits) and the amount, concentration and difficulty of coursework in mathematics (Math Conc) and science (Sci Conc).